

THE DELAWARE^{AND} HUDSON RAILROAD BULLETIN



*"The
D.H."*

JULY 1, 1930

SARATOGA BATTLE MONUMENT
SCHUYLERVILLE, N. Y.

Independence Bell

July 4, 1776

(New Version)

*There was tumult in the city,
In the quaint old Quaker town,
And the streets were thronged with people
Passing restless up and down—
People gathering at the corners,
Where they whispered lip to ear,
While the sweat stood on their temples,
With the stress of hope and fear.*

*Far aloft in the high steeple
Sat the bellman, old and gray;
He was weary of the tyrant
And his iron-sceptred sway.
So he sat with one hand ready
On the clapper of the bell,
Till his eye should catch the signal,
The expected news to tell.*

*Quickly at the welcome signal
The old bellman lifts his hand;
Forth he sends the good news, making
Iron music through the land.
How they shouted! What rejoicing!
How the old bell shook the air,
Till the clang of freedom echoed
From the belfries everywhere.*

*The old State House bell is silent,
Hushed is now its clamorous tongue,
But the spirit it awakened
Still is living, ever young,
And we'll ne'er forget the bellman
Who, that great day in July,
Hailed the birth of Independence,
Which, please God, shall never die.*

—AUTHOR UNKNOWN.

"The D.H."

The
DELAWARE AND HUDSON RAILROAD
CORPORATION

"The D.H."

BULLETIN

Vol. 10

Albany, N. Y., July 1, 1930

No. 13

Engineman Taught By His Father

Veteran Learned Fine Points of Locomotive Operation in Nine-Year Apprenticeship

ONE morning, back in the eighties, a passenger train stood at a Pennsylvania Division station awaiting its time of departure. Down on the ground beside the big drivers stood an elderly man in the clothes of a typical railroader, making the most of the few minutes remaining. During the course of his close inspection he noticed a loose nut on the motion work.

"Boy," he called to the man in the cab, "come down here". He watched with manifest pride as his son dropped to the ground. The younger man approached with his eyes on his parent.

"Did you see anything wrong on your way up here?" the older man asked. To his son's negative reply he added, "Now go back and see if everything is all right." On his second trip past the engine the young man found and repaired the defect. This done, they returned to the cab. After that the younger man never left a terminal without carefully inspecting his engine first.

A few minutes later they were seated in the cab, the fireman grasping the throttle for the first time. The air whistle sounded twice; the young man threw the reverse lever ahead, started the bell, and gently opened the throttle.

Locomotive *E. A. Quintard*, No. 7, moved away from the platform, picking up speed rapidly. As they gained headway the father, seated on the fireman's box, checked every move of his pupil.

He watched his son "hook her up", somewhat uncertainly perhaps, but surely; saw him peer out along the boiler supported by four five-foot-eight-inch drivers and four engine truck wheels. Beyond the long, gaunt smoke-stack and bulky oil headlight his eyes were fixed on the tracks. They approached the next station at full speed, and were almost abreast of the platform when the engineman shut off to apply his brakes for the station stop. Now the man on the left side looked back over the low tender into the smoking car.

"Fine stop, boy," he said simply.

"If a single man's head moved or a newspaper swayed when the brakes were applied, I was called down for making a poor stop. That is the way I learned to run an engine, firing nine and one-half years for my father," says SAMUEL G. COBB, retired Pennsylvania Division engineman. "I both fired and ran the engine, trip after trip, practising starting and stopping at every station. My



SAMUEL G. COBB

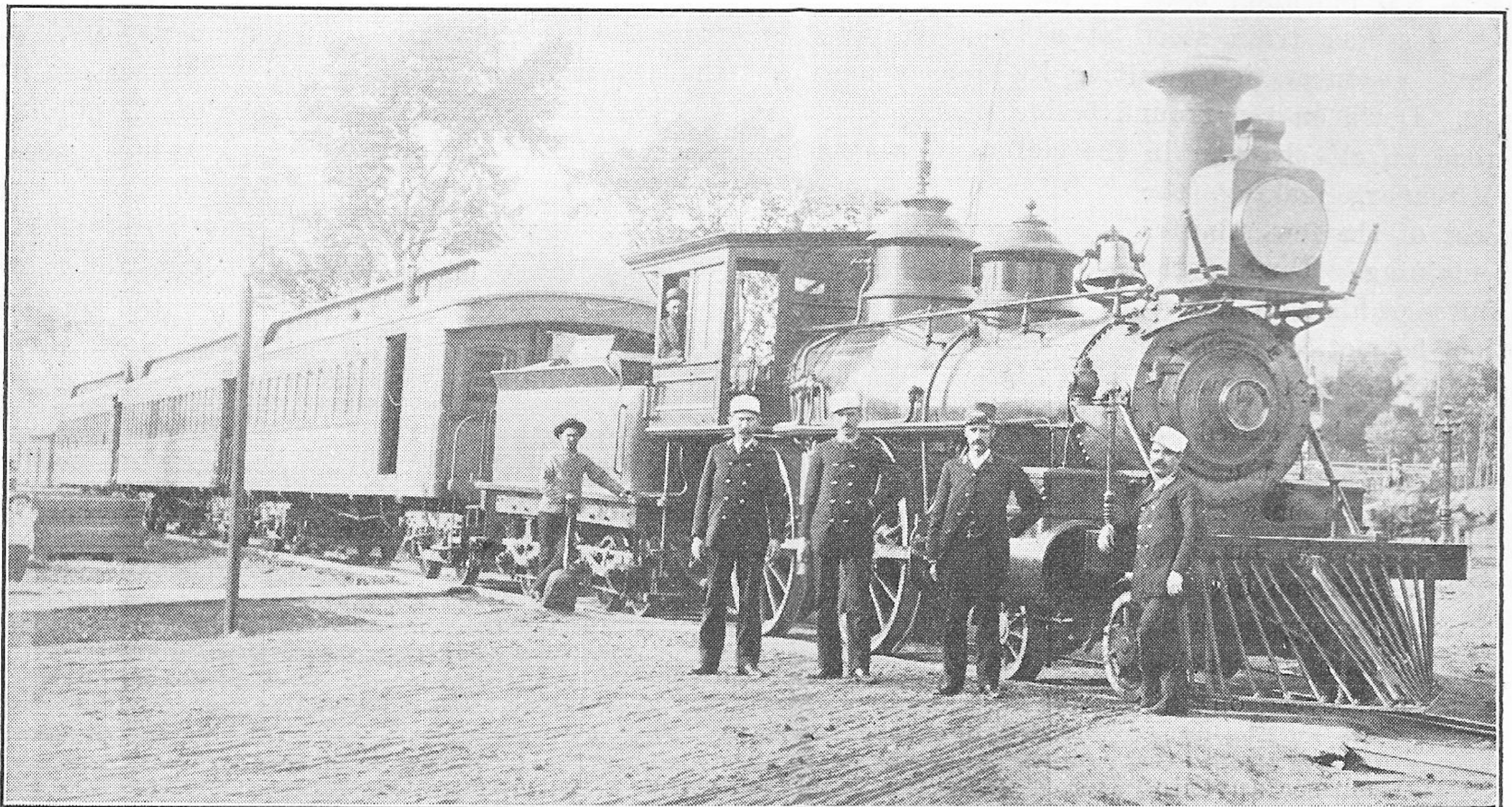
The Delaware and Hudson Railroad Bulletin

father invariably watched the smoker and if anything moved he told me I had made a poor stop. No man ever had a better instructor than my father, although he was mighty strict. Years later Superintendent of Motive Power R. C. Blackall asked MR. COBB where he learned to handle the air, remarking that he came into a station as fast as he could and stopped without any jar. When told that his father had taught him, Mr. Blackall remarked that he wished that all the enginemen could have had the same instructor.

The father, Samuel S. Cobb, was reputed to be one of the best passenger enginemen on the Division. Following the Civil War, in which he saw service at Bull Run, having answered the

was sure he could get Mr. Cobb a job; so certain, in fact, that he told him to be at the roundhouse the following morning ready for work. Upon the recommendation of Conductor Dotter he was hired and the elder Mr. Cobb thus began a period of 35 years in Delaware and Hudson employ.

Young SAM had already held a position in the Coalbrook breaker at Carbondale, picking slate for 30 cents a day, a position he had secured in a peculiarly way. His younger brother, who was of exceptionally small stature, had applied for a job as breaker boy. Although he was turned down on account of his size, the foreman told him that if his older brother SAM wanted a job



Left to Right: "Sammy" Cobb, his father, Jas. Nichols, Jas. Lewsley, Lewis J. Cook and Byron Peck

first call of "Father Abraham" along with three brothers and two cousins, he entered the service of the Lackawanna as engineman on a fast freight. Some time afterward he was employed as a machinist and later as engineman by the Delaware and Hudson.

SAMUEL, JR., was born in Scranton where he received his early education. The family later moved to Carbondale and then to Green Ridge, at that time a separate community, now a part of Scranton. When they came to Green Ridge Mr. Cobb, Sr., was out of work. He applied for a position as machinist under Master Mechanic Bell who told him that they had no vacancies. That night he met Conductor Sam Dotter with whom he had worked on the Lackawanna. Sam

he could have one. As a result SAM secured a job without any effort whatsoever on his part.

When his father went to Green Ridge SAM entered the office there to learn telegraphy. After some time he found that he could send satisfactorily, but he could not receive. Furthermore the work did not appeal to him in the least. He finally gave it up, therefore, returning to school for a year. In 1879 SAMUEL entered Delaware and Hudson employ again, this time as a wiper in the Carbondale roundhouse, on March 26, thus beginning an uninterrupted period of 50 years' service with our company.

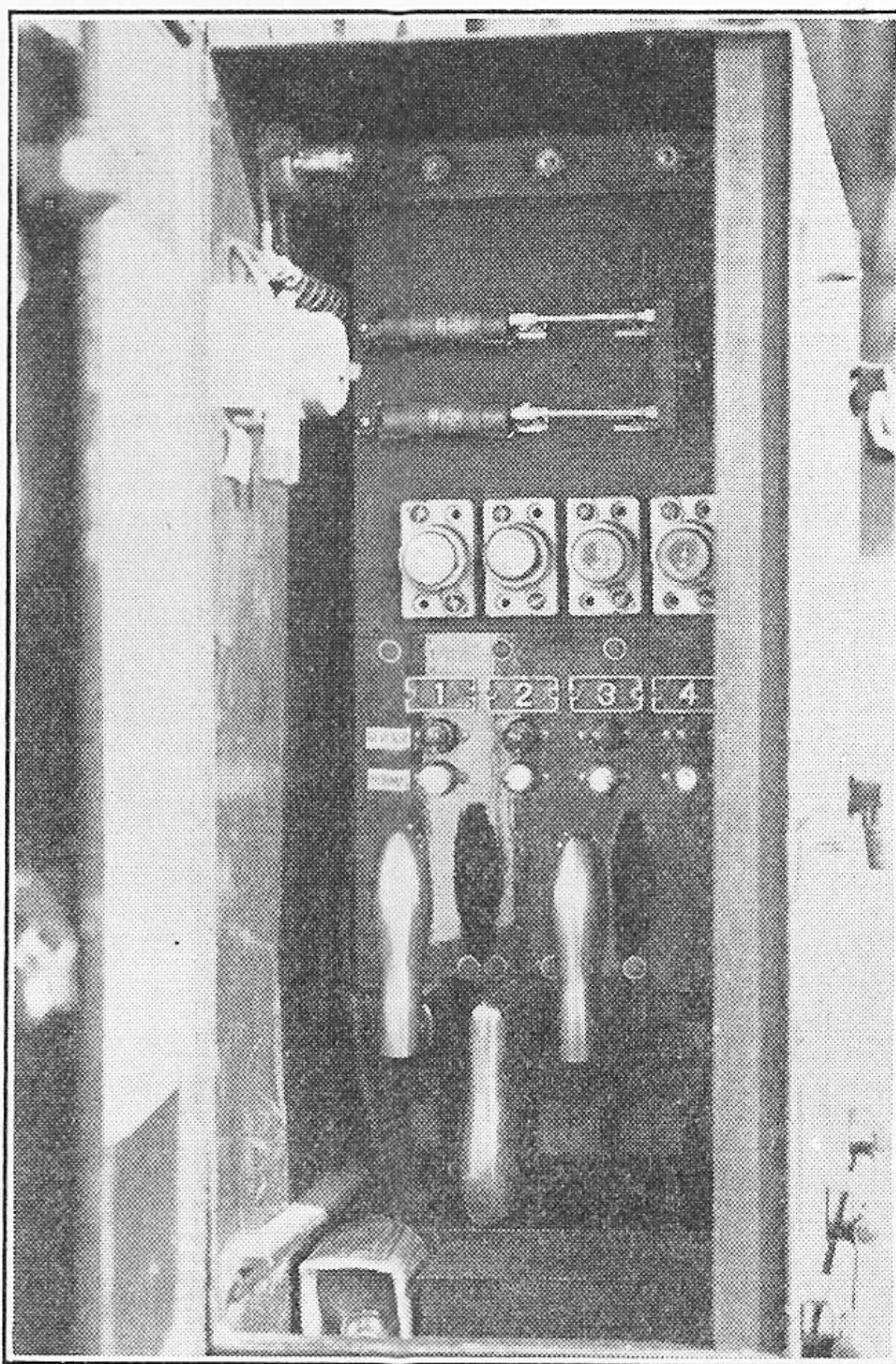
In those days the enginemen took great pride in their engines, each of which had both a name

(Continued on page 204)

An Electric Switchtender

By Manipulating Levers in Compact Control Cabinet, Four Switches Near Albany Passenger Station May Be Thrown, and One Signal Operated, By Electricity

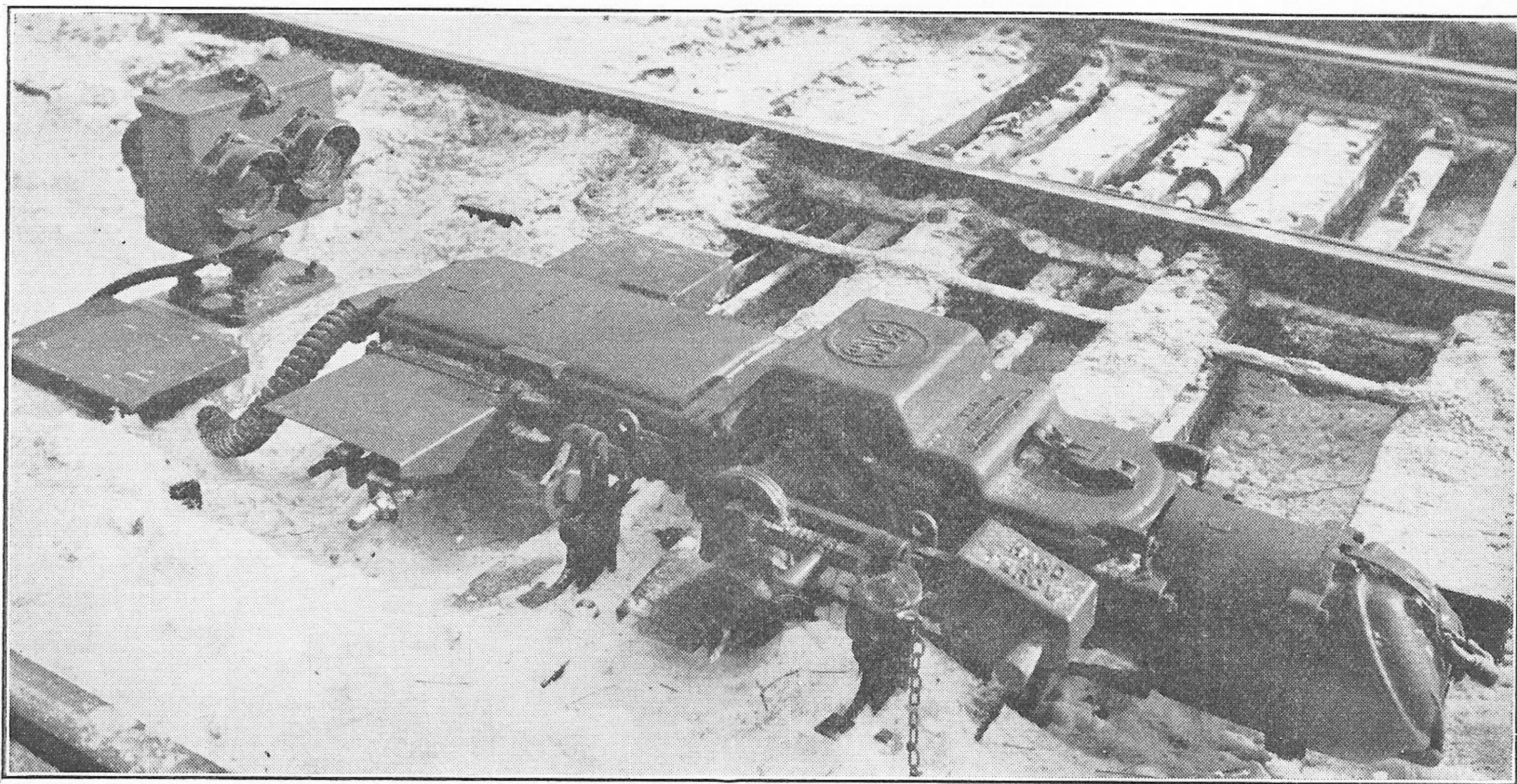
SOMEWHERE in the contents of almost any newspaper you pick up nowadays there is an item relating to the increased efficiency of the railroads. Most of us are aware of the larger capacity cars and more powerful locomotives which have done so much to help put railroad operation more nearly on a paying basis. There are many other factors, less obvious to the majority of us, which are, nevertheless, contributing tremendously in producing this increased efficiency. Represented in this group is the host of electrical appliances in use to facili-



Electric Switch Control Cabinet

tate signaling, communication, and switch operation. Among this latter number are the four electrically operated switches installed near the Albany passenger station by our Signal Department.

Just north of the station, where the tracks approach the platform at ground level, there is a series of five switches. Two are located at the opposite ends of a trailing point crossover from the north to the southward main at Columbia Street; two more are situated one block north at Orange Street, on the facing point crossover from the south to the northward track; and



Switch Throwing Machine, Showing Pot Signal and Hand Throw Lever

midway between the two is another leading from the northward main into the Water Street siding. All of these switches, with the exception of the one at the south end of the Columbia Street crossover, which is still hand thrown, have been electrified.

Approximately 100 passenger and freight train movements are made through this layout daily. Passenger trains arriving from Binghamton, as well as those from Saratoga Division points, cross over from the station platform tracks to the northward main en route to the coach yard at Colonie. Several of these passenger trains also use these switches to pick up and set off cars. Ordinarily the freight trains pass through without stopping, although a great deal of local freight switching is done at this point.

The switch throwing machines, which operate on a 110-volt alternating current, are firmly secured at the ends of ties of extra length, 34 inches from the gauge of the rail. The machine is supported by special tie plates which extend under the rail and the mechanism, providing a rigid connection between it and the rail. In the event that the electric system becomes inoperative the switch may be operated manually by unlocking and reversing a small lever located beside the hand throw rod, which breaks the circuit, thus converting it into a standard hand throw-switch stand.

At one end there is a four-light pot signal, used in lieu of switch targets, with red and green lights showing on each side. When the switch is in position for main line movement a green indication is displayed in both directions;

when lined for crossing over the green lights are extinguished and red lights appear.

All of the electric switches are operated from the control cabinet shown in the accompanying illustration, which is located just north of Columbia Street on the wall of the roofed platform

extending beyond the station proper. The switches are numbered in the following order: (1) north end of Columbia Street crossover; (2) Water Street siding; (3) and (4) south and north ends of the Orange Street crossover, respectively.

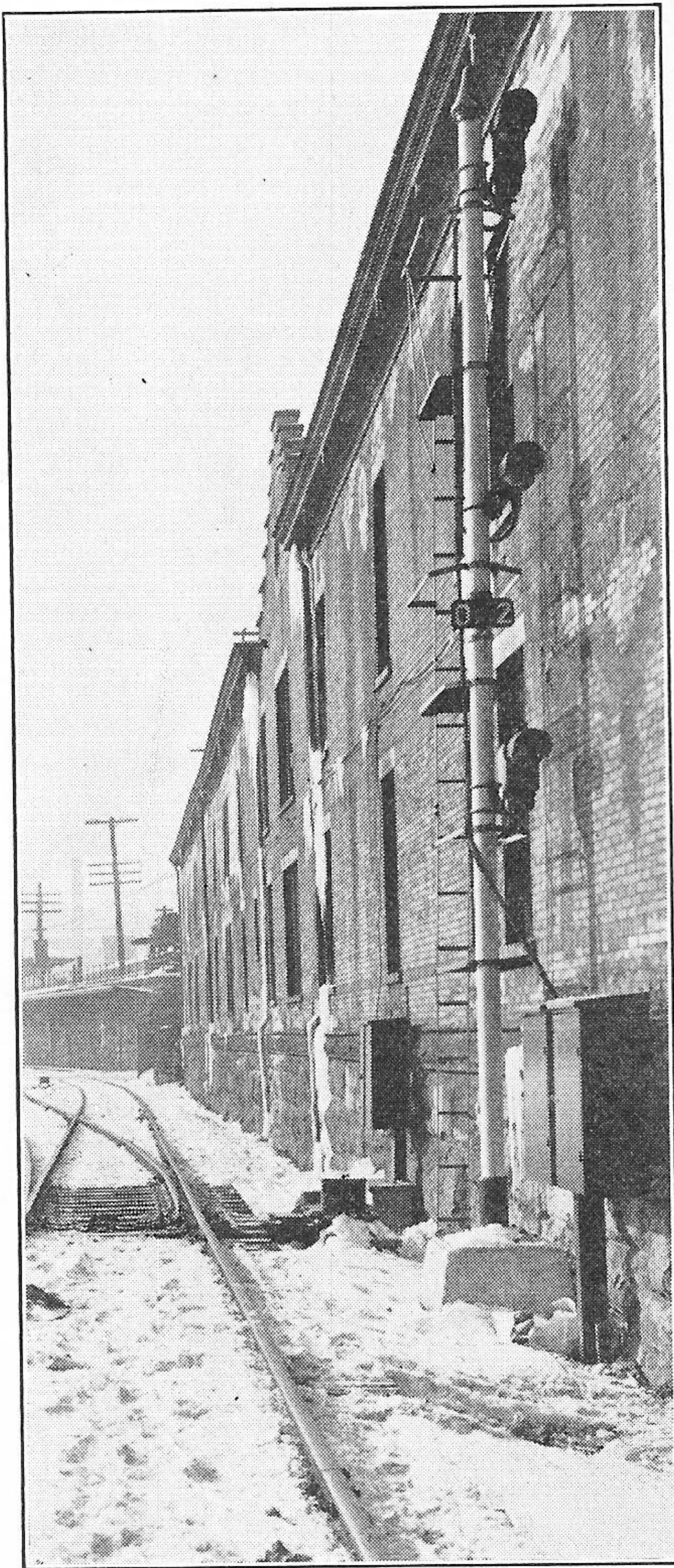
To understand the operation of the controls, let us suppose that the switchtender wishes to throw switch number 1. The small green bulb directly over the handle is burning, showing that the switch is in normal position. He grasps the handle on the left, in back of which is a small latch. When this latch is depressed if the track is not already occupied he will hear a low hum and the light over number 1, at the extreme top of the cabinet, will light, indicating that the track is clear, the lever is unlocked, and may be used to move the switch.

When the switch has been thrown the green light is extinguished and the red light directly above it, opposite the

word "Reverse" is lighted. These lights carry the indication of the signal lights on the switch at all times. To return the switch to normal position he pushes the lever back in, and the red light will go out and the green light appear again.

Switch number 2 is operated in the same manner as number 1. Numbers 3 and 4, at the Orange Street crossover, are cross connected so that

(Continued on page 206)



Home Signal 0.2

The Battle of Saratoga

First Decisive American Victory in War For Independence Resulted From Failure of British to Unite to Deliver Blow Which Would Have Crushed Colonists

SARATOGA'S greatest claim to national historical prominence lies in the battle fought there in 1777, called by historians the thirteenth of the great battles in the world's history. (The first was the battle of Marathon, 490 B. C., when the Athenians of ancient Greece defeated the invading Persians; the twelfth was Waterloo, where Wellington defeated the great Napoleon.)

General Burgoyne, the English leader, was moving southward from Montreal on his way to Albany, in line with his plan to isolate New England from the rest of the Colonies. Had this been accomplished the American cause would probably have been lost. Briefly, the intention of the English was this: Burgoyne was to force his way through Lake Champlain to Albany, where Lord Howe, marching northward from New York, would meet him. They were then to be joined by St. Leger who was to advance from Oswego.

The plan failed for a number of reasons: Germaine, the British Secretary of State, failed to give Howe definite instructions and the latter marched to attack Philadelphia. St. Leger was defeated by Arnold at Fort Stanwix on his eastward journey. Most important of all, however, Burgoyne surrendered to the American forces after the battle of Saratoga in October, 1777.

Burgoyne, against the advice of those experienced in Indian warfare, had set out for Albany intending to enjoy all the comforts of English home life en route. The officers were encumbered with baggage, the army was followed by nearly 300 women, trains of beef cattle were never wanting, and the general's table, during the whole campaign, did not lack the wines and other delicacies needed for gay nightly feasts. Some of the more fashionable young officers are even reported to have carried fishing tackle, intent, on enjoying the sports of a new country.



Wounding of Benedict Arnold, Battle of Saratoga

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The Americans retreated steadily in the face of Burgoyne's superior force. General St. Clair, in charge of the garrison at Fort Ticonderoga, was forced to evacuate when Burgoyne seized a position on a hill overlooking the fort and intrenched his cannon during the night. For this move St. Clair was severely criticized. King George, upon hearing of his surrender, rushed to the queen to tell her that his army had "defeated all of the Americans." It was not until after Generals St. Clair and Schuyler had faced court martial that the former was found justified in retreating from the fort.

Down through the Champlain-Hudson valley the victorious British army marched to meet reverses which finally ended in its complete surrender. Burgoyne's forces were short of supplies which, of necessity, had to be shipped down Lake Champlain from Montreal. In order to replenish his stores and to procure horses for his Hessian Cavalry, he dispatched the German leader Baum to Bennington to seize American supplies. En route Baum's force was joined by a number of men, supposedly Tories, who kept them company during the remainder of their march. General John Stark, in charge of the Green Mountain Boys, marched forward to meet the invaders, and when they met, the "Tories" proved to be American patriots who fell upon their erstwhile companions to cut them off from retreat with the result that they were nearly annihilated on August 16, 1777. This victory greatly encouraged the American troops who had become disheartened after the fall of Ticonderoga.

The Americans under Arnold gained another victory over the English and Indians under St. Leger, who fled in haste upon hearing the report that Arnold with a much larger force than he actually commanded was coming to capture Fort Stanwix. A courier followed an old Indian route by Saratoga Lake and across the river at Glens Falls to tell Burgoyne of this disaster.

Upon hearing the news of the double defeat, at Bennington on the east and Fort Stanwix on the west, Burgoyne became uneasy. He had left 1,000 of his best men in charge of Fort Ticonderoga; he had heard that Howe had marched on Philadelphia; and he determined, therefore, to push through to Albany at any cost. Encouraging his troops with the promise of spending the winter "dancing the Albany ladies into submission," he continued southward.

Having crossed the Hudson on September 13th and 14th, General Burgoyne encamped on the heights and plains of Saratoga and confronted

General Horatio Gates on Bemis' Heights at Stillwater, where the Americans had strongly fortified themselves. It was Burgoyne's intention to move forward along three lines: one under General Phillips with the heavy artillery, was to push by the Americans on the east, protected by General Riedesel; the second and main division under Burgoyne himself, to charge the main American implacements; while the third, commanded by General Fraser, was to circle and flank the American position on the west.

The center column, under Burgoyne, pushed forward as planned, only to meet a deadly fire from the American sharpshooters under the Virginia Colonel, Daniel Morgan. Arnold in the meantime, kept Fraser at bay on the right, while Phillips was unable to carry the American left flank. As a result the original plan was abandoned and the British combined their efforts to break through at the center. Time and again they charged the American line, only to be driven back by the accurate fire of the defenders. Each time the American forces followed the retreating English until they reached the woods at the clearing. Then they, in turn,



The Story of the

Above are shown the niches in the four faces of the Soldiers and Sailors Monument in Saratoga, N. Y., a view of which appears on the cover of the *Delaware and Hudson Railroad Bulletin*. The niches were occupied by the statues of Generals Gates, Schuyler, and Morgan, on the North, East, and South face was to have been occupied by the statue of Benedict Arnold, who later forfeited his claim to lasting fame by turning traitor.

were forced to retreat. For four hours the English continued to storm the American position, being driven back several times until, just before nightfall, they succeeded.

Both armies claimed the victory. The English had lost over 600 men as compared with approximately 400 on the American side; Burgoyne had failed to break through the line so that he could continue to Albany; and the Americans had lost their position. Had Burgoyne but known, he could easily have defeated the Americans the following day for they were entirely out of ammunition. He was too deeply concerned over the lack of supplies in his camp, however, for the boats now faced possible capture by Lincoln in his rear.

Inasmuch as Sir Henry Clinton was expected to come up the Hudson to his assistance, he fortified his position and waited. In view of the non-arrival of Clinton, the difficulty of retreat, and the shortness of his supplies, he was again forced to give battle on October 7.

After placing his troops, Burgoyne dispatched a party to reconnoiter the American position.

When a scout, noticing the movement of the enemy, surmised that the British were moving forward to attack, General Gates ordered the Americans forward. Fifteen hundred British, with six pieces of artillery, were attacked by Morgan's riflemen and a New Hampshire brigade, while Arnold, without orders, and in defiance of Gates, pressed to the front and assumed actual command, leading the Americans in a determined assault upon the British lines. The Americans being reinforced by General Ten Broeck and 3,000 New York militia, the British again and again gave way, and the battle ended in their retreat with the loss of their artillery.

In this battle the English General Simon Fraser was shot and mortally wounded by one of Morgan's sharpshooters. Arnold, too, received a severe wound in the leg just as the Americans took the British lines.

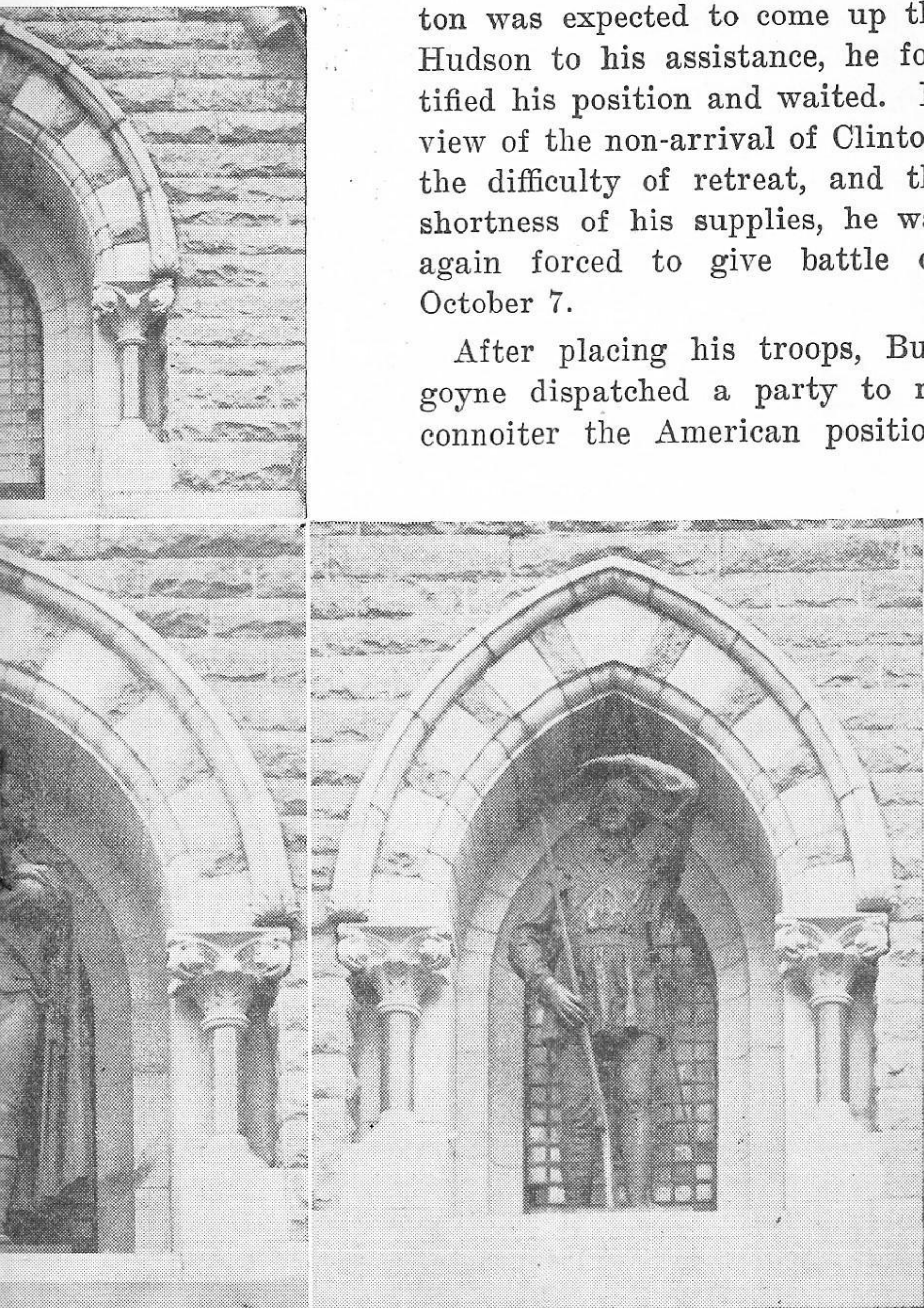
Cheered by this success, the Americans pursued Burgoyne, attacked him furiously, and gained partial possession of his camp. This battle, like the first, ended with darkness.

That night, while the Americans slept, Burgoyne withdrew to the heights in his rear, not far to the north, and on the following day, retreated further to avoid capture. After again vainly waiting for Clinton to come to his aid, nearing the end of his provisions, and continually exposed to the American fire, Burgoyne proposed a cessation of hostilities. Gates' demand for unconditional surrender was refused and it was finally agreed that the British should march out with the honors of war, and should take passage for England, on condition of not again serving against the American army. These terms were not ratified by Congress, however, and the British, with the exception of Burgoyne and a few other officers, were held as prisoners until the end of the war.

(*Editor's Note:* This is the second of a series of articles covering the history and development of Saratoga Springs and Old Saratoga. The first article, "Saratoga, Old and New" appeared in *The Bulletin* of June 15th. The final installment, describing modern Saratoga Springs, will appear in the issue of July 15th.)

Millie's father was becoming impatient at the lateness of the hour, and remarked, "I can't see why that young fellow who is calling hasn't sense enough to go home. It's near midnight."

Willie, awakened by his father's voice, ventured some light on the subject from the darkness of his room. "How can he go, Dad," he said, "when Millie is sitting on him?"



Vacant Niche

Saratoga Battle Monument at Old Saratoga, now Schuyler's issue. From left to right are the statues of General Benedict Arnold, outstanding hero of this engagement, traitor to his country.

The

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BULLETIN

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July 1, 1930

No. 13

The Tree Lived On

THERE'S an old story about a branch that was grafted on a tree by a farmer, which carries with it an excellent moral for all of us.

This branch had every right to be proud of itself. In the blooming season its flowers were large and the creamy petals red on the edges, while the other blossoms on the tree were small and scraggly and dirty white.

When the autumn changed the flowers to fruit, the apples on this branch were big, deep red, with hearts as white as snow.

And the branch, seeing this, was swollen with pride.

"Why should I remain a part of this poor tree," it said. "I give more fruit than the rest of the branches combined. I will be a tree unto myself, that men may know me and give me credit for my fruits."

The next time a strong wind blew, the branch strained and pulled and twisted, and finally tore itself free from the tree. The tree bled at the wound a little time, but the gardener came along and grafted another branch in its place.

But the branch that tore itself away died very quickly. It did not realize that the sap—the lifeblood that gave it health and strength to produce—came from the roots of the tree.

The branch could not see that because the tree had other branches it was able to drink in more sunshine and rain—that all branches drew life from the soil and the air and gave it gladly that one branch could flourish and produce more fruit.

So the branch that thought it could be a tree died.

The tree lived on.—*Mead Co-Operation.*

Railroads and Business

WHEN President Hoover late last year asked industry to proceed with a constructive program to offset business depression the railroads of the country gave assurance they would expend at least \$212,000,000 on improvements to provide employment and to prevent any sharp depression. The railroads not only have made good their promise but they have exceeded it.

The Association of Railway Executives have reported that in the first three months of the year they have expended \$224,000,000 in improvements, a sum much larger than in the same periods within two or three years.

Thus have the railroads done their share in stabilization after the stock market debacle of last fall. And the effect of the organized effort of business and industry, led by President Hoover, is beginning to be felt. It will be even more appreciable after the summer season.

The large expenditures and improvements by the railroad companies act in two ways. They have contributed largely to business generally, for such expenditures mean work for many plants and for many men. They have also contributed to the general confidence in the soundness of the country economically. The railroads and other industries have shown that they believe in the prosperity of the immediate future and they have been willing to invest millions in that belief.—*Albany Evening News.*

Beware the Bath!

A DOCTOR calls attention to the danger of locking the bathroom while bathing. He thinks that danger lurks within. In writing to the American Medical Association he describes sixteen kinds of bathroom accidents of more or less serious consequences. Most of these, it is pointed out, could have been averted with reasonable precautions. The same is true of nearly all accidents. Among those listed by the writer are:

Scalds from too hot water.

Electric shocks from defective electric wiring.

Falls getting in or out of the tub.

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The New Despotism

Growing Tendency of Government Bureaus to Usurp the Functions of the Courts, to the Detriment of the Individual, is Decried by Eminent English Jurist

LORD HEWART of Bury, the Lord Chief Justice of Great Britain, has written a book published by Ernest Benn which he calls "The New Despotism" and which reviews the growth of Bureaucracy in that country.

There are, he thinks, somewhere in the offices of the Bureaus some ingenious gentlemen who have never commanded a practice at the Bar but have gained some acquaintance with theories of law and who are associated in a coterie of persons who are at present steadily engaged in the effort to remove questions of conflict between citizens out of the jurisdiction of the Courts in order to transfer them to the decisions of administrative authorities.

It is an organized and diligent minority, equipped with convenient drafts and employing after a fashion part of the machinery of representative institutions, is steadily increasing the range and power of departmental authority and withdrawing its operations more and more from the jurisdictions of the Courts.

They are officials in the departments concerned who seek to initiate legislation by which arbitrary powers are conferred upon them and who, for some reason or other, are extremely anxious to put the best face upon the encroachments of bureaucracy.

It is manifestly the offspring of a well thought out plan, the object and effect of which are to clothe the departments with despotic powers—and the measure which produces these results is itself the handiwork of the department.

Lord Hewart is equally severe upon departmental practices. He says:

"Evidence not tested by cross examination is nearly always misleading and practically valueless.

"It is essential that each of the parties should know the case the other made and should be heard in the other's presence.

"Mere expediency is not enough to displace the principle that the Courts are bound to administer justice in public. It is a queer sort of justice that will not bear the light of publicity.

"If the official who decides has not seen or heard the witnesses, he is as a rule quite incapable of estimating the value of their evidence.

"It seems absurd that one official should hold a public inquiry into the merits of the proposal, and that another official should be entitled, disregarding the report of the first, to give a decision on the merit. The case cannot be argued before one man and decided by another.

"Nothing is more dangerous in public affairs than that responsibility should belong to one person while the real authority rests with another.

"The citizen is delivered over to the department—the department becomes judge of its own course—and the measure which produces these results is itself the handiwork of the department."

Lord Hewart looks with foreboding upon the encroachment of the bureaucracy. It adopts, he says, various devices to give departmental decisions the force of statutes, to prevent them being reviewed in a Court of Law, to insure that the mere fact of a departmental decision having been given must be treated as conclusive evidence that the requirements of the law have been fulfilled, and to subtract from the Law Courts important decisions made behind the backs of the parties interested by a department.

The Law is like a great rock upon which a man may set his feet and be safe. The Courts are the only defense of the liberty of the subject against departmental aggression, the insatiable appetite to control other men's affairs evinced by those whose capacity to manage their own affairs was in inverse proportion to their desires. There is, he feels, too much arbitrary interference by Government officials, who were apt to be greedy of the power of giving instructions rather than suggestions and information.

The effect, he fears, is that the whole scheme of self-government is being undermined and that too, in a way which no self-respecting people, if they were aware of the facts, would for a moment tolerate.

The method is to cajole, to coerce, and to use Parliament, and it is strangely successful. The old despotism, which was defeated, offered Parliament a challenge—the new despotism, which is not yet defeated, gives Parliament an anaesthetic. The strategy is different but the goal is the same. It is to subordinate Parliament, to

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evade the Courts, and to render the will, or the caprice, of the department unfettered and supreme.

The exercise of arbitrary power is neither law nor justice. Arbitrary power is certain in the long run to become despotism, and there is danger, if the so-called method of "administrative law," which is essentially lawlessness, is greatly extended, of the loss of those hardly won liberties which it has taken centuries to establish.

The terms employed by despotism at different times and in different circumstances may vary, but its methods, upon analysis, prove to be rather monotonously similar.

There should be an end of all schemes to enable Government departments to rewrite a statute, or to invite premature opinions on hypothetical cases from His Majesty's Justices, or to shelter departmental decisions or orders against review by the Courts.

The true precedents which this coterie is following are the pretensions to the dispensing powers under the Stuarts, which finally led to the revolution and to their being driven out of the Kingdom.

The old King, as Rudyard Kipling sings in "The Old Issue," sometimes reappears under a new name:

*All we have of freedom, all we use or know—
This our fathers bought for us long and long ago
Ancient Right unnoticed as the breath we draw—
Leave to live by no man's leave, underneath the
Law.*

*Over all things certain, this is sure indeed,
Suffer not the old King: for we know the breed.*

*Howso' great their clamour, whatso'er their
claim,
Suffer not the old King under any name!*

A June Bride?

A young salesman was seen to turn away from a prospective buyer of an electric washing machine, a disgusted look on his face. The "boss" immediately wanted to know why.

"She doesn't want an electric washing machine," the young man replied. "I explained in detail just how to operate it, turned on the current, and showed her how it works, and finally she pointed to the hole in the bottom and asked:

"What is that for?"

"To let the water out," I said.

"Oh, then it doesn't wash by electricity does it? You have to use water?"

Engineman Taught By Father

(Continued from page 196)

and number. MR. COBB still has a list of all the locomotives at Carbondale in 1880, 37 in number, together with the engine's name and the engineman of each. Number 1 was the famous *Major Sykes*; Number 2, the *H. V. Olyphant*; others were the *Lackawanna*, *Mill Creek*, *R. Manville*, etc. In that year his father had Number 18, the *Pierce Butler*.

The engine crews made all of their light repairs during their rest periods, including the polishing and shining necessary to keep an engine with more brass than iron in first class condition. The fireman had to clean the flues and wash the boiler. On Sundays he reported at the roundhouse to assist the engineer at his work of polishing brass. MR. COBB's father took great pride in his engine and would not permit anyone else to work on it unless he was on hand to watch them. Every engineman boasted that his was the nicest looking engine; more than once blows supplemented words in deciding which of two engines was the neater. Some of them had beautiful scenery painted on the tanks and headlights.

MR. COBB remained in the roundhouse until March, 1881, when he went on the road as a trainman. On December 18, 1881, he became a fireman, and took over an engine August 1, 1890. During his last three years as fireman he also saw considerable service as an extra passenger engineman.

At the time of the death of Thomas Dixon, President of The Delaware and Hudson Company, while SAM was firing for his father, they were called to pull the special carrying officials of the company to the funeral. On the return trip Superintendent R. Manville told them to give the visitors a good ride from Carbondale to Nineveh. When they reached Nineveh, Superintendent of Motive Power Blackall remarked that that had been the fastest and smoothest ride he had ever had. Superintendent C. D. Hammond of the Susquehanna Division came forward to tell him that he would enjoy an even better ride from Nineveh to Albany. Mr. Blackall later remarked that he had not changed his mind despite the Susquehanna Division engineman's best efforts.

While MR. COBB preferred fast freight to passenger runs, most of his work was done in the latter service. Nor was his period of service without sufficient excitement to make it most interesting. One night he stopped at the Carbondale passenger station and after the engine

was uncoupled from the train proceeded up to the roundhouse to turn the engine. It was a bright night, an inch or more of snow lay on the ground, and it was practically as light as day. On the way to the house they passed a locomotive standing on the ladder track very close to the main. Upon receiving a signal from a trainman he passed by. The engine had apparently moved while they were gone, however, for on the return trip to the station it stood on the frog. He did not realize this until it was too late to stop, however, and his engine sideswiped the other. In the collision the steam heat pipe was torn loose and he was scalded before he could jump clear of the steam filled cab.

One of the most thrilling experiences of his career occurred at Jefferson Junction while he was on passenger trains 4 and 7. The yardmaster had misinformed an engineman whose locomotive was standing on the turntable that the passenger train was fifteen minutes late. As a consequence he backed out on the main just as MR. COBB's engine swung around the curve above the crossovers at a high rate of speed. MR. COBB, seeing the engine on the track ahead, called to Road Foreman of Engines Sullivan, who was seated on the fireman's seat, to look out. Just as the passenger train bore down upon him the pusher engineman heard its whistle and saw it coming. He threw the reverse lever ahead and opened the throttle in an instant, sending his locomotive back on the turntable. He was too late to clear the main entirely, however, and MR. COBB's engine grazed the side of the pusher's tank, creasing it for about half its length, and tearing off the grab handle. Both engines stayed on the rails, hardly the worse for their hairbreadth escape.

Upon completing 50 years in Delaware and Hudson employ MR. COBB decided to retire. Since his retirement he has spent considerable time traveling, having just returned from a six-month vacation in the west. On this trip he visited his brother who is Dean of the College of Fisheries in Washington University, Seattle, Wash.

MR. COBB has four sons and one daughter. Samuel S. Cobb, named for his grandfather, is Mayor of Cheyenne Wells, a city located in the southeast corner of Colorado, owning in addition a farm implement business; Louis R. Cobb, with whom he now resides at 188 New Alexander St., Wilkes-Barre, Pa., is the proprietor of a radio and electrical supply store; John C. Cobb is a traveling salesman working out of Binghamton, N. Y.; and George T. Cobb is cashier of the Penn National Bank of Reading, Pa. The daugh-

ter is the wife of Raymond C. Potteiger, Credit Manager of a department store at Easton, Pa.

MR. COBB is a charter member of The Delaware and Hudson Veterans' Association, having served as president for one year beginning March 1, 1925, the Brotherhood of Locomotive Engineers, and the Knights of Malta.

Making Mirrors of Quartz

VISITORS who properly time their call at the Thomson Laboratory of the General Electric Company at Lynn, Mass., may observe the spectacular process of making mirrors by subjecting a block of melted quartz sand to a shower of melted, powdered silica glass (quartz). The powder, melted by a roaring oxygen-hydrogen torch at a temperature of 3000 degrees, is squirted upon the quartz sand in order to obtain a mirror surface which may be ground to the delicate contours required for use in telescopes.

This process, developed by Dr. Elihu Thomson, is to be used for making the gigantic 200-inch telescope mirror required by the great telescope that the California Institute of Technology plans to set up to supplement the work of the Mt. Wilson Observatory.

If a mirror with the diameter of 200 inches were constructed of glass, the variations in its form induced by temperature would be so serious as to produce bad distortions in the image which it would give. Quartz remains practically constant under all ordinary temperatures. Consequently, a mirror made of it would be easier to grind and to use upon completion.

This successful solution of the problem of providing a rough bubble-filled mass of melted sand with a surface layer of pure glass-like fused quartz or silica glass is a major contribution to optical science. It is but one more in a long line of brilliant scientific achievements made by Dr. Thomson.—*The Technology Review*.

"Yes, sir, I believe big wars are often caused by the smallest matter," ruminated Old Man Jones. "Things that a fellow thinks don't amount to a darn will sometimes pile up a mountain of trouble. Why, just the other night my wife was working over a cross word puzzle and she looked up and said, 'What's a female sheep?' And I said, 'Ewe.' And there was another big war on."—*The Corn Cob*.

Beware the Bath!

(Continued from page 202)

Falls on slippery floor.

Poisonous fumes from bathroom heaters.

Baths too hot or too prolonged causing sufferers from some diseases to faint in the tub and drown.

For these and other reasons he thinks bathroom doors should always be left unlocked so that help may be immediately available in case of necessity.

That there is a slight element of danger, principally from falls in bath tubs, no one will deny. The per cent of accidents, however, is very small. A rug to step on when through with the bath averts the danger of slipping on the floor. A little care in stepping in or out of the tub reduces to a negligible quantity a fall from that cause. The same care in tempering the water overcomes the danger of scalding. In fact, there is very little danger in a bath room. There is more danger to the health in not taking a bath. The doctor's point that the door to the bathroom be left unlocked is one worth considering. The mere fact that the door is closed should be sufficient evidence that the room is occupied and notice to others to stay out.—*Mueller Record*.

Match Lights Electric Lamp

THE glow from a match, instead of the snap of a button or switch, may now light an electric lamp.

The flare of light affects a photoelectric cell which automatically completes an electric circuit, and the light goes on. It is rather a startling trick, when the modern host, as he steps into the garden for an after-dinner cigar with his guests, saunters casually under the swinging lantern, strikes a match, holds it close to the fixture and, instantly, the outdoor scene is bathed in light.

Ralph Neumuller, director of the Westinghouse Lighting Institute, writes in *Lighting Fixtures and Lighting* (New York):

"The astonished guests suspect a trick, as they have every reason to, and search vainly for a concealed switch that their host might have deprest with his foot at the moment of applying the match to the lantern. They refuse to accept in fact the miracle they have witnessed.

"But actually the host is not guilty of perpetrating a hoax.

"Inside of the electric lamp or lantern lighted in this manner is installed an amazing device combining the action of light and electricity. A weather-proof cabinet provides the magic. Out-

side light gains entrance to the interior through a carefully shielded lens at one end.

"Mounted inside is a photoelectric cell, the sensitivity of which to outside light may be increased or decreased as desired. It may be influenced only by the powerful rays of a search-light or, if so adjusted, by the weaker, fluttering light radiated by a match or candle. Light-waves act upon it in much the same manner that sound-waves affect a radio.

"Also, mounted in the cabinet, are two vacuum-tubes. These function as do those in a radio set. The outside light picked up at the degree of sensitivity of the photoelectric cell is passed on to these power tubes. They, in turn, step it up until amplified to an intensity sufficient to actuate a sensitized relay. The energized relay completes the circuit and the lamp is lighted."—*Literary Digest*.

An Electric Switchtender

(Continued from page 198)

they operate from the one lever. Directly over the small switch number plates are four fuses, one for each switch circuit. The large knife switch below the upper row of bulbs controls the current of the entire mechanism.

Southward train movements over the layout are controlled by signals 0.2 and 0.2A, located just north of the Orange Street crossover, also operated from the control cabinet. The top light governs movement on the straight track; the middle light is inoperative; and the bottom light is used as a calling-on arm and for directing diverging routes. To give a train the yellow signal for a straight movement the small knife switch nearest the reader on the upper left side of the box, is closed. When lighted, the white bulb over this switch indicates that one of the signals is displaying an indication less restrictive than stop. The bottom light of the two position signal is controlled by the other small knife switch.

The switch tender who operates the layout is enabled to keep in constant communication with the station master by means of a telephone placed by the control cabinet.

Father—"I never kissed a girl until I met your mother. Will you be able to say the same to your son?"

Son—"Not with such a straight face as you can, father."

Clicks from the Rails

"What Will They Do Next?"

An express train running at high speed between Toronto and Montreal was recently connected by telephone with Ottawa, Washington and London. On board the train Sir Henry Thornton, President of the Canadian National, lifted the transmitter and spoke to the operator. In a few minutes he was talking with Secretary Lamont in Washington.

This was the first public use of the new system of communication on the railroad system, to enable passengers on trains to telephone to all parts of the United States, Canada, and Great Britain.

Carl S. Brandebury of the Associated Press, then talked with Mr. Lamont, after which Sir Henry spoke with a representative of his company in London. Mr. Brandebury held a two-minute conversation with Harry H. Romer of the Associated Press in London, the voices at both ends of the connection coming in distinctly.—*Transportation*.

* * *

Big Money

Probably the largest bill ever presented for a cash fare was given to a New York Central conductor by the wife of a theatrical producer at Cleveland, as she boarded the Ohio State Limited. Upon assigning a drawing room to the lady, the conductor was amazed when she tendered him a \$1,000 bill. Her supply of smaller currency was insufficient to make the payment. The conductor therefore wired ahead to New York to have the change ready. When the train reached the Grand Central Terminal a messenger was waiting with nine \$100 bills and the change for one hundred.

* * *

An Embarrassing Oversight

Mrs. Winifred Scott of Edinburgh gave birth to a child in a third class compartment of the famous English train, the Flying Scotsman, recently, while the train was making 60 miles per hour toward London. The trouble now is how to register the birth, as the law requires that births be registered in the parish where they occur. Nobody noticed just where the train was when the incident occurred.—*Railway Age*.

His Conscience Cleared

Sixteen years ago, when the fare from Dana to Dickinson, W. Va., was forty cents, a man, still a resident of Dana, bought a ticket from Dana to Dickinson on the Ohio Central Lines, and boarded the train. The conductor, however, failed to collect the ticket, and the next time the man had occasion to visit Dickinson he again used the ticket.

Recently, the man visited Agent Burford at Dana, told his story, laid down forty cents and went his way rejoicing at his ease of conscience. The fare between Dana and Dickinson is now thirty-three cents.

* * *

Long Locomotive Leaps

M. A. Miot claims that in 1900, as engineman on the Louisville & Nashville, he drove a locomotive across a jump of 32 feet, the track for this distance being entirely unsupported and swinging in the air, as a result of a flood washing out the embankment beneath it. There are other instances of locomotives leaping across varying distances of swinging track, but this is the tallest tale of this kind.—*Railway Age*.

* * *

Train of Locomotives

The Boston & Maine recently handled a train of 25 locomotives. Only one of them was in operation, however, the other 24 being loaded on flat cars. They were the narrow-gauge locomotives of the recently electrified Boston, Revere Beach & Lynn, en route to a blast furnace in Pennsylvania where they were to be melted as scrap.

* * *

Tunnel Traffic Increases

Traffic through the Severn Tunnel, running under the Severn River between England and South Wales, totaled 22,077 passenger trains and 22,683 freight trains, according to figures appearing in the *Railway Gazette* (London). This represents an increase of 249 passenger trains and 1,741 freight trains since 1922. In 1887, when the tube was first opened, only 7,776 freight trains passed through. This is the longest tunnel in Great Britain, being over four miles in length.

Train Crew of Linguists

An excited passenger rushed alongside the Eureka express of the Northwestern Pacific as it was about to leave the Sausalito terminal on the north shore of San Francisco bay, wildly calling to the bewildered passenger directors in a foreign tongue. Conductor Louis G. Bacigalupi, and Brakemen Wenzel J. Basl and Frank Lawrence of the crew were called. In what language the troubled passenger's difficulties were settled is unknown, but it is presumed that they were satisfactorily adjusted because the three trainmen together speak fluently eight languages—Spanish, Swiss, Italian, French, German, English, Bohemian and Portuguese. In addition Brakeman Basl has a working knowledge of Chinese.—*Railway Age*.

* * *

Gas-Fired Locomotives

The Southern Pacific has realized a saving of \$24,000 in one year by firing its oil-burning locomotives with natural gas. In starting a fire in the fire box with oil there was great danger of fires starting from the oil drippings. By attaching a gas line to the oil feed pipe, gas is now fed into the firebox burners to heat the steam in the boiler. In addition to reducing the fire hazard, and the expense of building fires, the new system also eliminated the smoke nuisance.

* * *

European Rights of Way

In Europe it is not at all unusual for the traveler to see miles and miles of neatly clipped hedges serving as right-of-way fences. Another noticeable feature is the row of massive stone walls that line the cuts, each stone being as carefully chiseled as though it had been intended for a palace wall. This is but another indication of the cheapness of section labor there.

* * *

A Young Veteran

In searching for the oldest veteran, the Buffalo, Rochester & Pittsburg claims to have found the youngest veteran. He is J. A. Klos, 37 years old, with twenty-one and one-half years in B. R. & P. service, now the head of the bookkeeping department.

Vacations



RIGHTLY used, a vacation can do wonders for tired nerves and muscles. And it can be made just as enjoyable. A vacation that requires a week to "recover" is not a good investment. Keep your play and your sports within reasonable bounds. The point is not how tired you are when you start off, but how fit are you when you return to your job.